

2013 Maryland FMP Report (July 2014)

Section 18. Summer Flounder (*Paralichthys dentatus*)

Chesapeake Bay FMP

Regional, rather than state-by-state, conservation equivalency is being implemented for summer flounder in 2014. Maryland's region includes Virginia and Delaware. All states within a region have the same size limit, possession limit, and season.¹ For the Maryland/Delaware/Virginia region, the minimum recreational size is 16" with a 4 fish per person per day limit. Established state recreational harvest allocations will not be altered.¹ The 2012 benchmark stock assessment determined that the coastwide stock is not overfished and overfishing is not occurring.²

In the late 1980s, the Atlantic coast summer flounder stock was overfished and depleted. A coastal Fishery Management Plan for Summer Flounder was initially developed in 1982 by the Atlantic States Marine Fisheries Commission (ASMFC). The coastwide plan established a 14" minimum size and specified trawl net mesh size for fishing in state waters (≤ 3 miles from shore). The Mid Atlantic Fishery Management Council (MAFMC) developed a complementary Fishery Management Plan for the Summer Flounder Fishery in 1988 to govern the federal waters (> 3 miles from shore). The MAFMC's FMP required fishermen to abide by the more conservative of state or federal requirements. Summer flounder management was consolidated into a joint ASMFC and MAFMC fisheries management plan.

In 1991, the Chesapeake Bay jurisdictions adopted the Chesapeake Bay Summer Flounder Fishery Management Plan (CBFMP). The CBFMP implemented management measures to reduce fishing mortality (F) and increase the spawning stock biomass (SSB). CBFMP strategies and actions were based on guidelines established by the ASMFC and MAFMC. As the summer flounder stock improved, the Chesapeake Bay jurisdictions developed Amendment #1 to the CBFMP in 1997. This amendment adopted all future reference points and quota determined by the ASMFC and MAFMC. Jurisdictions continue to implement commercial and recreational management measures as needed to meet these requirements. The CBFMP Amendment #1 also implemented a system of individual fishing quota (IFQ) permits for the commercial fishery. The CBFMP is scheduled for a complete review in 2014.

From 1991 to 1995, MAFMC adopted seven amendments to adjust summer flounder management actions. ASMFC and MAFMC adopted amendments 8 and 9 to incorporate scup and black sea bass, respectively, into the summer flounder FMP. Between 1997 and 2007 ASMFC adopted two amendments (10 and 13) and 8 addenda (III, IV, VIII, and XV-XIX) to modify summer flounder management. In that same time period, MAFMC adopted five amendments (10-13, 15, 16, and 19) and five frameworks (1, 2, and 5-7) to modify summer flounder management.

ASMFC adopted Addendum XXV in 2014 to implement regional conservation equivalency for the 2014 season. Management will revert back to state-by-state conservation equivalency in 2015. Maryland submits an annual compliance report to ASMFC.

Stock Status

Summer flounder inhabit coastal waters from the North Carolina/South Carolina border north to the US/Canadian border and are managed as a single stock. A benchmark stock assessment was completed in 2013.² Current biological reference points (BRP) for summer flounder are $F_{\text{threshold}} = 0.309$, $SSB_{\text{target}} = 138$ million pounds, and $SSB_{\text{threshold}} = 68.8$ million pounds. Fishing mortality has declined since the 1990s and was estimated at 0.285 in 2012, which was below F_{target} . SSB began increasing in the 1990s. The 2012 SSB estimate was 113 million pounds, which was between the SSB_{target} and $SSB_{\text{threshold}}$ values. The review committee concluded that the summer flounder stock is not overfished and overfishing is not occurring.

Management Measures

The National Marine Fisheries Service (NMFS), in conjunction with MAFMC, determine coastwide annual catch limits (ACL), commercial quota, and recreational harvest limit (RHL). Commercial coastwide quota is allocated among states based on their historic proportion of landings. Maryland is allocated 2.04% of the coastwide commercial quota and 2.9% of the RHL.³ States can implement conservation equivalency that may result in different regulatory combinations from state-to-state as long as they stay within the ACL. Commercial and recreational quota overages are deducted from the following year's quota.

Maryland implements catch share management to equitably distribute the commercial quota among harvesters in Atlantic coastal waters, coastal bays and tributaries, Chesapeake Bay (primarily bycatch) and the Potomac River. The catch share system assigns a specific IFQ to each fisherman which allows them to manage their business for best economic yield. Commercial hook and line harvest is managed with a 16" minimum length and all other gears have a 14" minimum length. Commercial fishermen without an IFQ are restricted to 100 lbs per person per day in coastal waters and 50 lbs per person per day in tidal waters (Chesapeake Bay). The commercial season is year round. PRFC manages the Potomac River with a 14" minimum size. Net design and mesh size are also regulated.

The Maryland recreational summer flounder fishery was open year round in 2013. Minimum length was 16" and harvest was limited to 4 fish per person per day. PRFC manages the Potomac River recreational harvest with a 16" minimum size limit and 4 fish per person per day limits.

Maryland monitors summer flounder abundance, size, and age with an annual Coastal Bays trawl survey, beach seine survey, and commercial trawl landings from near-shore Atlantic waters. The Maryland Department of Natural Resources (MDNR) initiated the Maryland Volunteer Angler Summer Flounder Survey (MVASFS) in 2005. The results from these four surveys are used by ASMFC, MAFMC, and Maryland to develop regulations for the following year's summer flounder fisheries.

The Fisheries

Maryland's 2013 commercial fishery harvested 165,000 pounds⁴ of summer flounder. As of June 2014, 105,000 pounds⁵ of the 214,000 pound quota⁶ had been harvested (Figure 1).

Recreational landings of summer flounder should be viewed with caution due to high proportional standard error (PSE), which is a measure of precision. Forty-nine thousand summer flounder (PSE = 23.8) were harvested by recreational anglers in 2013⁴ (Figure 2).

Figure 1. Maryland's commercial summer flounder harvest (1940-June 2014)^{4,5} and quota (1994-2014)⁵.

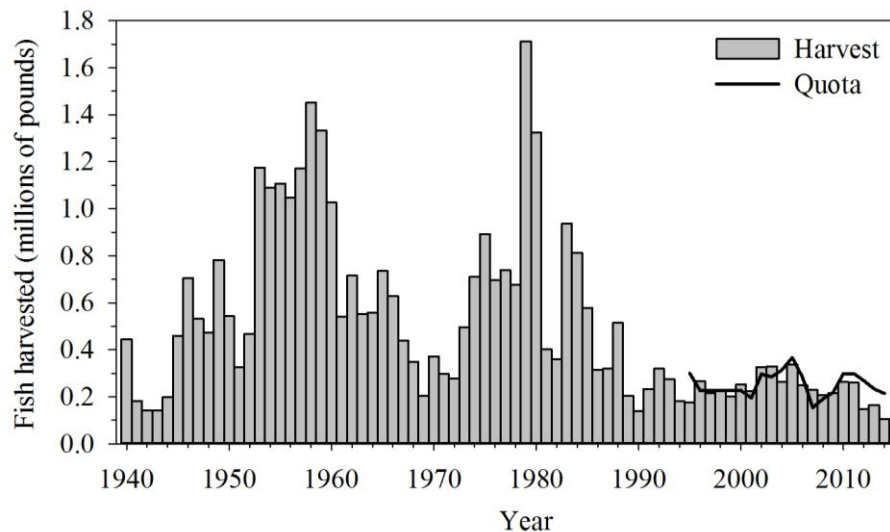
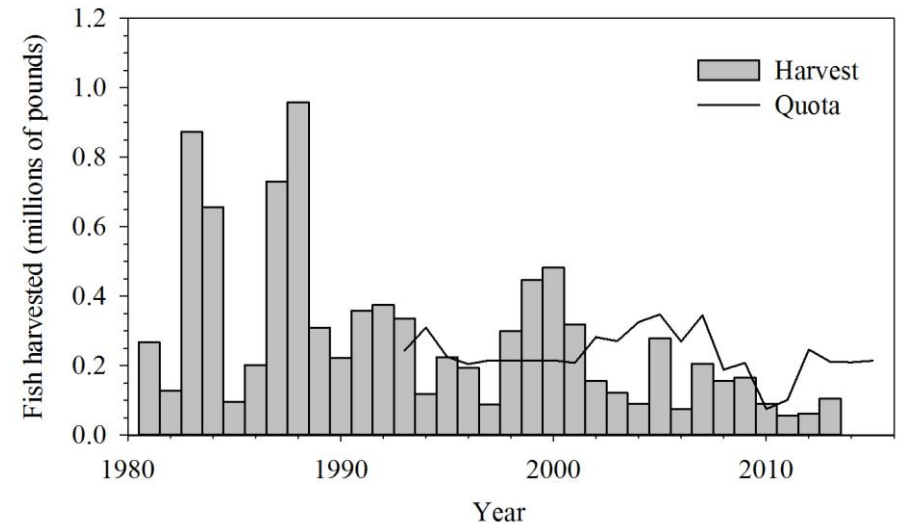


Figure 2. Estimated recreational summer flounder harvest and quota in Maryland from 1981 to 2012.⁴ Recreational quota is 2.9% of the total RHL, which are published in ASMFC FMP reviews (<http://www.asmfc.org/species/summer-flounder>) and the Federal Register (<http://www.gpo.gov/fdsys/search/home.action>).



Issues/Concerns

Some commercial harvesters from the lower mid-Atlantic are beginning to travel northward to catch summer flounder. For example, harvesters from North Carolina will travel by boat to New Jersey. The commercial sector has requested permission to land summer flounder at a port located where they are fishing rather than traveling back to their home port. A potential consequence of such a change would be a reallocation of state commercial quotas.

A poleward expansion of summer flounder distribution has been evident since 2009.⁷ The poleward expansion of summer flounder may be a response to warming water temperature⁷ or to fishery regulations that increased the proportion of larger summer flounder. Larger fish are found in cooler northern waters resulting in the northward shift of the species' center of biomass.⁸ As a result of changes in distribution and concerns about management, the ASMFC and MAFMC has initiated a comprehensive review of the summer flounder management framework over the next three years. This could result in revision of the goals and objectives of both the MAFMC and the ASMFC fisheries management plans.

There is sufficient error in the estimation of recreational summer flounder harvest to exercise caution when making management decisions. Average PSE of the Marine Recreational Information Program (MRIP) harvest estimates during the past decade has been 23.

The rate of summer flounder natural mortality is uncertain. Stock assessment results are influenced by natural mortality. Factors that are affected include F, SSB, and recruitment. These values are important for determination of stock status.

References

¹ Atlantic States Marine Fisheries Commission. (2014a). Addendum XXV to the summer flounder, scup, black sea bass fishery management plan; Summer flounder and black sea bass recreational management in 2014. Arlington, Virginia: Atlantic States Marine Fisheries Commission.

² Northeast Fisheries Science Center. (2013). 57th northeast regional stock assessment workshop (57th SAW) assessment report (No. Ref Doc. 13-16) (p. 967). Woods Hole, MA: U.S. Department of Commerce, Northeast Fisheries Science Center. Retrieved from <http://www.nefsc.noaa.gov/nefsc/publications/>

³ Doctor, S. 2013. Maryland's 2012 summer flounder (*Paralichthys dentatus*) compliance report to the Atlantic States Marine Fisheries Commission. Maryland Department of Natural Resources. Annapolis, Maryland.

⁴ Personal communication from the National Marine Fisheries Service, Fisheries Statistics Division. <http://www.st.nmfs.noaa.gov/index>

⁵ Personal communication from the NOAA Fisheries Service, Northeast Regional Office, Fisheries Statistics Office. http://www.nero.noaa.gov/ro/fso/reports/reports_frame.htm

⁶ Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service. (2014). Fisheries of the Northeastern United States; Summer Flounder, Scup, and Black Sea Bass Fisheries; 2014 Summer Flounder Specifications; 2015 Summer Flounder, Scup, and Black Sea Bass Specifications; 2014 Research Set-Aside Projects (Federal Register No. 79(61)).

⁷ Nye, J. A., Link, J. S., Hare, J. A., & Overholtz, W. J. (2009). Changing spatial distribution of fish stocks in relation to climate and population size on the Northeast United States continental shelf. Marine Ecology Progress Series, 393, 111–129. doi:10.3354/meps08220

⁸ Bell, R. J., Hare, J. A., Manderson, J. P., & Richardson, D. E. (2014). Externally driven changes in the abundance of summer and winter flounder. ICES Journal of Marine Science, 71(5). doi:10.1093/icesjms/fsu069

Amendment #1 to the 1991 Chesapeake Bay Summer Flounder Fishery Management Plan Implementation Table (updated 7/2014)			
Strategy	Action	Date	Comments
1.1) The Bay jurisdictions will continue to implement management measures which reduce fishing mortality on the summer flounder stock and equitably allocate the harvest of summer flounder.	1.1a) The jurisdictions will implement annual quotas, individual quotas and/or possession limits in addition to seasonal restrictions, minimum mesh size requirements, minimum size limits, limited entry and license requirements to meet the coastwide commercial quota. The traditional balance of harvest between the Chesapeake Bay and the Atlantic coast will be maintained.	1998, 2004 Continue	ASMFC revised overfishing definition. Coastwide and state quotas are determined annually. ASFMC allowed a change in allocation. FMP actions are annually evaluated and adjusted to meet ASMFC coastal stock rebuilding targets.
		2008 2009	The ASMFC's Summer Flounder, Scup, and Black Sea Bass Board set the 2009 total allowable landings for summer flounder at 18.45 million pounds, up 2.68 millions pounds from 2008. Officials determined from the 2008 June Stock Assessment Workshop (SAW) and Peer Review that summer flounder is no longer overfished, is not experiencing overfishing, but has not been rebuilt to target levels.
		2011	MD annual commercial quota is determined by NMFS/ASMFC. Commercial IFQ permits are issued. Limit without permit in Ocean and Coastal Bays is 100 lbs/individual/day. Limit without permit in Chesapeake Bay is 50 lbs/individual/day. PRFC annual commercial quota is determined by NMFS/ASMFC and deducted from MD's total annual quota. VA annual commercial quota is determined by NMFS/ASMFC and is 21.3% of the coastwide quota. Of the annual quota, 300,000 lbs is set aside for tidal waters; 142,114 lbs is set aside for the Chesapeake Bay waters and the remaining quota is allocated to harvest from non-Virginia waters (typically beyond 3 miles offshore). For the non-VA waters, harvest from 1st Monday in January to the day prior to last Monday in November is allotted 70.7% of this quota. The remaining 29.3% of the quota is allotted to the last Monday of November to December 31. Allocation limits are adjusted for over and under harvest. A series of combined pound/day and pound/species (Atlantic croaker, black sea bass, scup, squid, scallop, and Atlantic mackerel) restrictions have been implemented.
		2013	MD's commercial hook and line minimum size was reduced to 16". Minimum size for other gear types is 14". PRFC and VA minimum size is 14".

Amendment #1 to the 1991 Chesapeake Bay Summer Flounder Fishery Management Plan Implementation Table (updated 7/2014)			
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	1.1b) The jurisdictions will implement recreational seasons, creel limits and minimum size limits to meet the annual coastal recreational harvest limits recommended by the MAFMC/ASMFC.	2001	ASMFC implements coastwide system for conservation equivalency.
		2003	ASMFC sets State-specific recreational harvest targets.
		2005	ASMFC established a program to allow the recreational summer flounder coastwide allocations to be subdivided into regions.
		2014	Regional management was implemented in place of conservation equivalency. MD, DE, and VA are being managed as a single region with all jurisdictions having the same regulations: 16" minimum length and 4 fish/person/day creel.
	1.1c) Maryland and Virginia will maintain the traditional commercial fishery by requiring a special landings permit for the Atlantic commercial summer flounder fishery. The jurisdictions will develop, define and adopt criteria to determine eligibility for participation in the fishery.	1998	MD has implemented a summer flounder catch share system.
		2003	The catch share allocation equitably distributes the quota among harvesters based on past harvest. IFQ allows fishermen to manage harvest for best economic yield.
		2005	VA issues permits for vessels and dealers.
		On-going	

1991 Chesapeake Bay Summer Flounder Fishery Management Plan Implementation Table (updated 7/2014)			
Strategy	Action	Date	Comments
1.1) Maryland, Virginia and the PRFC will propose changes in the minimum size regulations, creel limits and seasons in the recreational fishery to conform to guidelines set by MAFMC. Maryland and Virginia will comply with commercial quotas, mesh sizes and other commercial restrictions enacted by MAFMC. These recommendations are intended to provide greater spawning stock biomass from each flounder year-class and provide a greater yield-per-recruit.	1.1a) Maryland, the PRFC and Virginia will propose an increase in their minimum size limit for recreationally caught flounder from 13 inches to 14 inches.	1992	Initiated increasing minimum size 13" to 14" ASMFC revised overfishing definition.
	1.1b) Maryland, Virginia and the PRFC will propose creel limits and seasonal restrictions in compliance with MAFMC recommendations. A six fish creel limit will be proposed as one measure to meet these recommendations. A recreational fishing season extending from May 15 – Sept. 30 may also be required to reduce fishing mortality. Virginia will continue to enforce its ten fish per day limit until such time as MAFMC recommendations can be implemented.	1998	See Amendment #1, Strategy 1.1, Action 1.1b
		1998	See Amendment #1, Strategy 1.1, Action 1.1b
	1.1c) Commercial size limits will remain at 13" for Virginia and Maryland in conformance with MAFMC recommendations. The PRFC will propose a 14" minimum commercial size limit for its commercial flounder fisheries to provide parity with the recreational fishery. A 5.5 inch diamond or 6 inch square minimum cod end mesh size will be implemented in all directed flounder trawl fisheries.	1998	See Amendment #1, Strategy 1.1, Action 1.1a
	1.1d) Commercial fisheries will be subject to quotas set by MAFMC and administered by the states. All flounder landed by a vessel registered in a state will be counted towards that state's quota, without regard to the actual fishing location. Commercial fisheries in each state will be closed when that state's quota is reached. The PRFC will propose a moratorium on its commercial flounder fisheries from January through June, inclusive, to compliment the seasonal closure proposed for the recreational fishery, in addition to conforming to MAFMC quota closures.	1993	ASMFC State allocations changed.
		1995	ASMFC capped coastwide quota & adjusted stock rebuilding schedule.
		1998	ASMFC revised overfishing definition. See Amendment #1, Strategy 1.1, Action 1.1a
		2012	MD receives 2.04% of the coastwide commercial TAL. A portion of MD's TAL is allocated to PRFC. VA is allocated 21.3% of the coastwide quota.
		2013	A coastwide benchmark stock assessment was completed in 2013 (with data through 2012). New (updated) BRPs were adopted. The coastal summer flounder stock is not

1991 Chesapeake Bay Summer Flounder Fishery Management Plan Implementation Table (updated 7/2014)			
Strategy	Action	Date	Comments
		2014	<p>overfished and overfishing is not occurring.</p> <p>The MAFMC began a major review of the summer flounder component of their management framework for summer. Completion is scheduled for 2017.</p>
<p>1.2) Management agencies will continue to promote the implementation of minimum mesh size in the directed flounder trawl fisheries sufficient to allow escapement of immature female flounder. Management agencies will urge the Mid-Atlantic Fisheries Management Council to enact a mesh size compatible with these management goals in the directed flounder trawl fisheries to complement the mesh size requirements enacted through the Baywide Plan.</p>	<p>1.2a) Virginia and Maryland will implement a 5.5 inch diamond or 6 inch square minimum cod end mesh size in all directed flounder trawl fisheries to allow escapement of immature female flounder. Virginia and the PRFC will continue their bans on trawling in state waters.</p>	On-going	Mesh size restrictions have been implemented.
	<p>1.2b) Virginia and Maryland will work with the Mid-Atlantic Fisheries Management Council to adopt a 5.5 inch diamond or 6 inch square minimum cod end mesh size for the EEZ flounder trawl fishery consistent with the objectives of the Baywide Plan and MAFMC's recommendations for conservation of the resource.</p>	<p>On-going</p> <p>2014</p>	<p>Mesh size restrictions have been implemented.</p> <p>MAFMC has begun a major review of their management framework for summer flounder. Completion is scheduled for 2017.</p>
<p>1.3) Virginia, Maryland and the Potomac River Fisheries Commission will investigate the incidental bycatch of small flounder in non-directed fisheries and participate in coastal deliberations to protect small flounder in other coastal states.</p>	<p>1.3a) Maryland will collect information from its pound net and ocean trawl fisheries to develop management strategies for reducing the non-directed bycatch of small flounder and other species. Options for consideration include minimum mesh sizes, season and area restrictions, culling practices, escape panels and fishing efficiency devices.</p>	On-going	MD collects summer flounder abundance, size, and age data from commercial trawlers fishing near-shore Atlantic waters.
	<p>1.3b) Virginia will continue to monitor the species composition and biological characteristics of bait harvested in its pound net fishery. The VMRC will take action, as needed, to reduce the incidental bycatch of small flounder in the bait fishery.</p>	On-going	Monitoring of pound net bait fish harvest is not required.
	<p>1.3c) Maryland, PRFC, and Virginia will work through the Mid-Atlantic Fisheries Management Council and the Atlantic States Marine Fisheries Commission to encourage protection of immature flounder.</p>	On-going	Immature flounder are conserved via gear and harvest restrictions.
<p>2.1) Maryland, Virginia and the Potomac River Fisheries Commission will continue to support stock</p>	<p>2.1) The jurisdictions will continue to support stock identification research, particularly stock composition tagging studies being conducted at</p>	<p>1995</p> <p>On-going</p>	<p>VIMS and the VMRC cooperatively support the Virginia Game Fish Tagging Program. The tagging program trains and maintains an experienced group of volunteer recreational</p>

1991 Chesapeake Bay Summer Flounder Fishery Management Plan Implementation Table (updated 7/2014)			
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identification research to determine the extent of stock mixing in the Chesapeake Bay flounder population.	Virginia's Institute of Marine Science (VIMS) and the University of Maryland. Coordinated studies on the relative contribution of various estuaries, including the Chesapeake Bay, to the coastal flounder stock will be initiated.	2014	<p>anglers who tag and release the fish they catch. More information is available at: http://www.vims.edu/research/units/centerspartners/map/recfish/index.php</p> <p>MD does not have a summer flounder tagging program.</p> <p>Regional stock management is being implemented for 2014.</p>
2.2) Virginia will continue to support stock assessment work conducted by the VMRC and index of abundance research performed by Virginia Institute of Marine Science (VIMS).	2.2) VMRC's Stock Assessment Program will continue to collect biological data (age, size, sex) from commercial catches of summer flounder. VIMS will continue to monitor abundance of juvenile flounder through its young-of-the-year and juvenile flounder survey trawl indices.	On-going	Data collection is required by ASMFC and MAFMC.
2.3) Maryland, Virginia and the Potomac River Fisheries Commission will continue to support interjurisdictional efforts to maintain a comprehensive data base on coastwide level.	2.3) Maryland, Virginia and the PRFC will continue to collect fisheries landings data on summer flounder as part of ongoing commercial fisheries statistics programs. Virginia will continue to pursue adoption and implementation of a limited and/or delayed entry program and a mandatory reporting system for commercial licensees. Maryland and Virginia will continue to supplement the Marine Recreational Fisheries Statistics Survey to obtain more detailed catch statistics at the state level. Through FISHMAP, Maryland will begin a pound net sampling project to collect information on summer flounder and other species.	On-going 2006	<p>Data collection is required by ASMFC and MAFMC.</p> <p>FISHMAP program was discontinued.</p>
2.4) Maryland and Virginia will continue their joint and individual efforts in providing the information needed to determine the relationship between abundances of adult and juvenile flounder.	2.4) Maryland and Virginia will continue the Baywide trawl survey of estuarine finfish species and crabs to measure size, age, sex distribution, abundance and CPUE. Maryland will continue seaside juvenile summer flounder studies utilizing bottom trawls, beach seines and their cooperative sampling of trawl fisheries.	<p>1977 On-going 1989 On-going</p> <p>2001 – 2006</p>	<p>MD DNR conducts a summer blue crab trawl survey.</p> <p>VIMS and MD DNR collaboratively conduct a winter dredge survey of blue crabs.</p> <p>University of Maryland Center for Environmental Science Chesapeake Biological Laboratory, University of Maryland - College Park, and the Maryland Department of Natural Resources co-operatively conduct the Chesapeake Bay Fishery-Independent Multispecies Survey (ChesFIMS). More information is available at: http://hjoert.cbl.umces.edu/chesfims.html</p>

1991 Chesapeake Bay Summer Flounder Fishery Management Plan Implementation Table (updated 7/2014)			
Strategy	Action	Date	Comments
		2002 2006	VIMS conducts the Chesapeake Bay Multispecies Monitoring and Assessment Program (ChesMMAAP, a subset of ChesFIMS sites) with funding from the VMRC. The trawl survey samples juvenile and adult fishes from the upper Chesapeake Bay to the mouth of the Bay. Northeast Area Monitoring and Assessment Program (NEAMAP) is a near shore trawl survey that samples from Cape Hatteras north to Cape Cod that also implemented. More information is available at: http://www.vims.edu/research/departments/fisheries/programs/multispecies_fisheries_research/interaction/fish_food_habits/index.php
		On-going	Summer flounder juvenile surveys are required by ASMFC.
3.1) The District of Columbia, Environmental Protection Agency, Maryland, Pennsylvania, the Potomac River Fisheries Commission, and Virginia will continue to promote the commitments of the 1987 Chesapeake Bay Agreement. The achievement of the Bay commitments will lead to improved water quality and enhanced biological production.	3.1) The District of Columbia, Environmental Protection Agency, Maryland, Pennsylvania, the Potomac River Fisheries Commission, and Virginia will continue to set specific objectives for water quality goals and review management programs established under the 1987 Chesapeake Bay Agreement. The Agreement and documents developed pursuant to the Agreement call for: 1) Developing habitat requirements and water quality goals for various finfish species.	1990 On-going	Chesapeake Bay Program (CBP) develops, revises, and monitors goals and strategies for agriculture, air pollution, bay grasses, blue crabs, chemical contaminants, climate change, development, education, forests, groundwater, invasive species, menhaden, nutrients, oysters, population growth, rivers and streams, sediment, shad, stormwater runoff, striped bass, wastewater, weather, and wetlands. For more information: http://www.chesapeakebay.net/issues The CBP has developed a new draft Watershed Agreement with fisheries and habitat outcomes. Summer flounder is not a focal species.
	3.1 2) Developing and adopting basinwide nutrient reduction strategies.	1990 On-going	Chesapeake Bay Program develops, revises, and monitors goals and strategies for nutrient reduction. For more information: http://www.chesapeakebay.net/issues/issue/nutrients
	3.1 3) Developing and adopting basinwide plans for the reduction and control of toxic substances.	1990 On-going	Chesapeake Bay Program develops, revises, and monitors goals and strategies for chemical contaminants. For more information: http://www.chesapeakebay.net/issues/issue/chemical_contaminants
	3.1 4) Developing and adopting basinwide management measures for conventional pollutants entering the Bay from point and nonpoint sources.	1990 On-going	Chesapeake Bay Program develops, revises, and monitors goals and strategies for sediment, wastewater, stormwater runoff, and agriculture. For more information: http://www.chesapeakebay.net/issues/issue/sediment http://www.chesapeakebay.net/issues/issue/wastewater http://www.chesapeakebay.net/issues/issue/stormwater_runoff
	3.1 5) Quantifying the impacts and identifying the	1990	Chesapeake Bay Program develops, revises, and monitors goals

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	sources of atmospheric inputs on the Bay system.	On-going	and strategies for air pollution. For more information: http://www.chesapeakebay.net/issues/issue/air_pollution
	3.1 6) Developing management strategies to protect and restore wetlands and submerged aquatic vegetation.	1990 On-going	Chesapeake Bay Program develops, revises, and monitors goals and strategies for wetland and submerged aquatic vegetation restoration. For more information: http://www.chesapeakebay.net/issues/issue/wetlands http://www.chesapeakebay.net/issues/issue/bay_grasses
	3.1 7) Managing population growth to minimize adverse impacts to the Bay.	1990 On-going	Chesapeake Bay Program develops, revises, and monitors goals and strategies for land development. For more information: http://www.chesapeakebay.net/issues/issue/development

Acronyms

ASMFC – Atlantic States Marine Fisheries Commission
 CBP – Chesapeake Bay Program
 ChesFIMS – Chesapeake Bay Fishery-Independent Multispecies Survey
 ChesMMAP – Chesapeake Bay Multispecies Monitoring and Assessment Program
 CPUE – Catch per Unit Effort
 EEZ – Exclusive Economic Zone
 FISHMAP – Fishery Independent Sampling and Habitat Mapping
 FMP – Fishery Management Plan
 IFQ – Individual Fishing Quota
 MAFMC – Mid-Atlantic Fishery Management Council
 MD DNR – Maryland Department of Natural Resources
 NEAMAP – Northeast Area Monitoring and Assessment Program
 NMFS – National Marine Fisheries Service
 PRFC – Potomac River Fisheries Commission
 SAW – Stock Assessment Workshop
 TAL – Total Allowable Landings
 VAC – Code of Virginia
 VIMS – Virginia Institute of Marine Science
 VMRC – Virginia Marine Resource Commission